

NOTE

Striking Sexual Dimorphism and its Taxonomic Consequences among  
New World Phorid Flies (Diptera)

On my recent visit to the Biosystematics Research Institute (BRI) in Ottawa, Ontario, D. M. Wood pointed out to me six wingless female phorid flies of the species *Trophodeinus barberi* Borgmeier, collected in the head of a Malaise trap near Ottawa. This genus is known from three species described from females only. Wingless females of the genus *Aenigmatias* Meinert are often found in Malaise heads with their associated winged males (pers. obs.), and recently Miller (1984. Ecol. Entomol. 9: 293-302) published accounts of wingless female *Puliciphora borinquenensis* Wheeler being carried in flight by males to new oviposition sites. As it was unlikely that the female *T. barberi* crawled to the apex of the trap, it was reasonable to assume that the hitherto unknown males should have been in the same samples. In the collection were seven male *Bactropalpus furcatus* Borgmeier, belonging to a genus known only from males, collected during the same time period in this Malaise trap. Matching the dates gave five pairs, plus two single males and a single female. The presence of the lone female can be attributed to overlooking a specimen of the small, nondescript male in a crowded Malaise residue. This association suggests that *T. barberi* and *B. furcatus* are the same species.

A second co-occurrence of these flies was noted from a flight intercept trap set in Coronado National Memorial, Arizona, where a pair belonging to an undescribed species were collected.

Borgmeier (1960. Studia Entomol. 3: 257-374) described *Trophodeinus* from Brazil, and later recognized two more species from North America (1963. Studia Entomol. 6: 1-256). The genus was recognized on the basis of the greatly enlarged proboscis, reduced eyes, and reduced frontal setation. *Bactropalpus* was erected by Borgmeier (1963. Rev. Bras. Biol. 23: 165-170) for a group of seven *Puliciphora*-like males (including *B. furcatus*) that share the characters of expanded, flattened palpi with short setae and complex, distinctive genitalia.

Based on the association of specimens in the Ottawa traps, the names *B. furcatus* and *T. barberi* are synonymous, with *B. furcatus* the junior synonym (NEW SYNONOMY). Although the type species of both *Bactropalpus* (*B. chelifera*) and *Trophodeinus* (*T. analis*) are Brazilian, the two species combined here exhibit, in common with these type species, all the diagnostic characters of the genera in which they were described. Therefore, the genera are also considered to be congeneric, and their names synonymous. The name *Bactropalpus* is a junior subjective synonym (NEW SYNONOMY), and the valid name for the genus is *Trophodeinus*.

The following species are transferred to *Trophodeinus* as NEW COMBINATIONS: *T. arizonensis* (Borgmeier) Arizona: Maricopa Co.; *T. chelifera* (Borgmeier) Brazil: Nova Teutônia, S.C.; *T. denticulatus* (Borgmeier) Texas: San Antonio; *T. lobatus* (Borgmeier) Brazil: Nova Teutônia, S.C.; *T. spatulatus* (Borgmeier) New Mexico: Catron Co.; *T. vicinus* (Borgmeier) Guatemala: Acatenango. The other

three species of *Trophodeinus* are: *T. analis* Borgmeier Brazil: Nova Teutônia; *T. barberi* Borgmeier Maryland: Plummer's Island; *T. pygmaeus* Borgmeier Michigan: Livingstone Co.

There seem to be few structural characters to associate the males and females of *Trophodeinus*, other than the frontal setae and the somewhat flattened, elongate hind basitarsus, but the highly derived condition of the male genitalia may be correlated with the unusual female genital segments. Nothing is known of their natural history, although a slide mounted female from the Ottawa collection shows that the proboscis ensheathes a long, thin stylet, suggesting a predatory habit. Males are commonly attracted to lights, and a male *T. spatulatus* from Arizona was collected with *Neivamyrmex* sp. (Hymenoptera: Formicidae).

The data for the Ottawa area specimens and new records for *T. furcatus* and *T. spatulatus* are listed below. All specimens are deposited at BRI, Ottawa (BRI) or the author's collection (BVB):

*T. barberi*. CANADA. Ontario: Metcalfe, 21.vii.1984, 1 ♂, 1 ♀, 24.vii.1984, 3 ♂, 4 ♀, 26.vii.1984, 2 ♂, 1.viii.1984, 1 ♂, 1 ♀, B. E. Cooper. (Malaise trap) (BRI). UNITED STATES. Arizona: Coconino Co., 20 mi. N. Flagstaff, Bonito Park, 8-25.viii.1984, 7000', B. V. Brown, intercept trap, ponderosa pine/meadow, 1 ♂ (BVB).

*T. spatulatus*. UNITED STATES. Arizona: Cochise Co., S.W.R.S. nr. Portal, 5400', 6.ix.1970, V. Roth, with army ants, riparian forest, 1 ♂ (BVB).

I acknowledge the helpful comments of G. E. Ball, K. N. Barber and S. A. Marshall.

Brian V. Brown, *Department of Entomology, University of Alberta, Edmonton, Alberta T6G 2E3, Canada.*